

Marie Skłodowska-Curie Research Fellow (full-time)

BIO-MICRO Project

Job Information

Organisation

University of Foggia, Foggia, Italy

Department

Department of Medical and Surgical Science

Research Field

Biological sciences: cell biology and metabolism

Researcher Profile

First Stage Researcher (R1)

Position

PhD Profile

Application Deadline

September 8, 2026 – h. 1.00 p.m. (italian time)

Country

Italy

Type Contract

Temporary

Job Status

Full-Time

Offer Starting Date

November 2026

Duration

36 months

Is the job founded through the EU Researcher Framework Programme?

Horizon Europe – MSCA

Marie Curie Grant Agreement Number

No. 101226686

Is the job related to staff position within a Researcher Infrastructure?

No

Offer Description:

University of Foggia, Department of Medical and Surgical Science, invites motivated candidates to apply for a fully funded PhD position within the prestigious Marie Skłodowska-Curie Actions (MSCA) – BIO-MICRO Project

Number of Places:

n.1 – Position RF9

RF 9 - We are seeking a highly motivated PhD candidate to join the project ‘*Investigating the effects of individual micronutrients (MNs) on cellular function in PBMCs in health and inflammation (WP5)*’. The candidate will work at the interface of cellular metabolism, and micronutrient biology, performing in vitro experiments to characterise how individual MNs influence mitochondrial function and metabolic pathways in peripheral blood mononuclear cells. This position is ideal for someone with a strong interest in experimental cell biology, nutritional biochemistry, and the pathophysiology of inflammation.

What will you do:

Position RF 9: Investigating the effects of individual MNs on cellular function in PBMCs in health and inflammation

Supervisors: A. Cotoia, C. Piccoli, C. Pacelli, K. Koekkoek

Enrolment in Doctoral Course in “Innovative Sciences and Technologies for health and active aging” - activated by the Department of Medical and Surgical Sciences of the University of Foggia for the 42° cycle - academic year 2026/2027, subject to obtaining ministerial accreditation pursuant to Ministerial Decree 226/2021.

Project Description

POSITION RF9 -The project focuses on understanding how individual micronutrients (MNs) influence cellular metabolism and mitochondrial function in health and inflammation. Although MN deficiencies and altered intracellular MN dynamics are frequently observed in critical illness, the mechanistic pathways through which specific vitamins (B1, B6, B9, C, D, E) and trace elements (selenium, zinc) affect immune cell function remain poorly defined. To address these gaps, this project will establish baseline intracellular MN concentrations in PBMCs from healthy adults and investigate how individual MNs modulate mitochondrial activity, metabolic pathways, and oxidative stress. Using controlled in vitro exposure experiments combined with high-resolution analytical techniques (HPLC, ICP-MS, Seahorse XF), the PhD student will characterize MN kinetics, dose-response relationships, and concentration-effect patterns. By comparing healthy PBMCs with PBMCs exposed to inflammatory stimuli, the project will clarify how inflammation alters MN distribution and function, ultimately generating mechanistic insights that can inform future clinical strategies to optimize MN status in critically ill patients.

Your main tasks and responsibilities in this project are:

POSITION RF9

- Isolating PBMCs from healthy adults and critically ill patients and performing controlled in vitro exposure to individual micronutrients.
- Measuring intracellular MN concentrations and assessing mitochondrial function and cellular metabolism using established analytical techniques.
- Characterising MN kinetics, dose-response patterns, and concentration-effect relationships in healthy and inflamed PBMCs.
- Comparing MN profiles and metabolic responses between health and inflammation.
- Analysing data, preparing scientific outputs, and collaborating with supervisors and project partners.

What do we expect

We seek a highly motivated scientist who is able to work both independently and as part of a multidisciplinary team, demonstrates strong analytical and problem-solving skills, and shows a proactive and curious mindset. The candidate should be precise and well-organized in experimental work, communicates clearly in both written and spoken form, and should be comfortable collaborating across clinical and laboratory environments. A strong sense of responsibility, willingness to learn new techniques, and the ability to manage multiple tasks within an international research network are essential. The research project should result in a PhD thesis.

Requirements

Education Level - Master Degree or equivalent – Applicants should hold a second-cycle academic degree (as per the Bologna Process) or a Master's-level degree, which qualifies them for PhD studies in the country where the degree was obtained and which was awarded by an officially recognized academic institution.

Specific Requirements

At the time of selection, applicants must comply with the eligibility criteria applicable to Marie Skłodowska-Curie Doctoral Network Doctoral Candidates:

- the applicant must not already hold a doctoral degree or be enrolled on a PhD programme. Candidates who have successfully defended a PhD thesis but have not yet been formally awarded the degree are considered ineligible.
- The applicant must comply with the MSCA mobility rule: Candidates may be of any nationality but must not have resided or carried out their main activity (work, studies, etc.) in Italy for more than 12 months during the three years (36 months) immediately before the recruitment date at University of Foggia (start of the course). Short stays, such as holidays, are not considered.
- applicants must demonstrate sufficient proficiency in written and spoken English to participate successfully in doctoral training activities, conduct research, prepare scientific and technical documentation, and communicate within an international research network.
- The selected candidate must be eligible for admission to a doctoral programme at University of Foggia, subject to the university's admission requirements. Where applicable, candidates may also need to comply with national and international regulations governing knowledge transfer and export control.

Requirements

To be eligible for this position, applicants must meet the MSCA Doctoral Network eligibility criteria for admission:

- the applicant must not already hold a doctoral degree. Candidates who have successfully defended a PhD thesis but have not yet been formally awarded the degree are considered ineligible.
- The applicant must comply with the MSCA mobility rule: Candidates may be of any nationality but must not have resided or carried out their main activity (work, studies, etc.) in Italy for more than 12 months in the three years (36 months) months) immediately preceding the application deadline for the Call for Applications for

admission to the PhD Programmes of the 42nd Cycle at the University of Foggia (September 8, 2026 – h. 1.00 p.m. Italian time).

Skill/Qualifications

In addition, applicant must have following requirements and experience:

- Applicants should have documented experience in cellular bioenergetics and metabolism research, including metabolic flux analysis and the use of Seahorse XF technology
- The degree must qualify the applicant for enrollment in the Doctoral Course at University of Foggia: a second level academic qualification (according to the Bologna Process) or a Master Degree that gives access to the doctoral courses in the country of origin and that has been released from an officially recognised academic institution. The candidates who already possess equipollence of their title released by the Italian University must attach to the application the relative self-certification (which indicates the extremes of the provision). Eligibility of the foreign qualification that instead hasn't already been declared equivalent to the degree. This then is verified from a judging commission in accordance to the actual Italian legislation
- Fluency in English (written and spoken) and excellent communication skills;

Your Working Environment

You will join a vibrant, multidisciplinary research environment that brings together experts in nutrition, immunology, critical care, and cellular metabolism. The project is embedded within a collaborative network of Department of Medical and Surgical Sciences and Department of Clinical and Experimental Medicine, at University of Foggia and at Policlinico of Foggia. The team culture is highly supportive, interactive, and research-driven, providing ample opportunities for scientific exchange, co-supervision, and cross-disciplinary learning. The research group is led by **Prof. Antonella Cotoia (main supervisor)**, together with **Prof. Claudia Piccoli** and **Prof. Consiglia Pacelli** as co-supervisors, ensuring a rich blend of clinical, biochemical, and cellular expertise. The University of Foggia provides fully autonomous, modern research facilities and infrastructure, offering an excellent environment for conducting high-quality experimental and translational research.

POSITION RF9

External supervision in this project comes from partners at **MH**, a large university-affiliated clinical teaching hospital in Groningen, the Netherlands, where the researcher will complete a secondment during the third year of the PhD under the guidance of **Dr. Kristine Koekkoek** (Intensivist and Clinical Researcher, Impact Coordinator) and **Prof. Dr. Marianne Nieuwenhuis** (Research Coordinator at the MH Burn Centre).

During this period, the researcher will work within the highly specialized environment of the **MH Burn Centre**, one of the three Dutch Burn Care Centres and part of the national **Alliance of Dutch Burn Care**. The fellow will analyse micronutrient status in relation to inflammation using blood samples from burn patients enrolled in the clinical observational trial (WP3), as well as samples collected from international burn centres.

The secondment provides access to MH's extensive clinical research infrastructure, including a dedicated scientific institute for research facilitation, experienced research nurses, senior researchers (including expertise in statistics and methodology), and a specialized Burn Research Lab focusing on inflammation. The fellow will also contribute to clinical data collection in the Dutch Burn Centres, gaining valuable experience in translational research and strengthening the link between laboratory findings and patient-centred outcomes.

The BIO-MICRO project

BIO-MICRO - Advancing micronutrient diagnostics for personalised ICU care (bio-micro.eu)

What we offer

This PhD position is funded by the Marie Skłodowska-Curie Actions (MSCA) of the European Union's Europe 2024 research and innovation program under grant agreement No 101226686. You will be enrolled as fulltime PhD student for 3 years at University of Foggia in a doctoral course will be selected from among those offered by the medical departments of the University of Foggia for the XLII cycle - academic year 2026/2027, subject to obtaining ministerial accreditation pursuant to Ministerial Decree 226/2021.

Salary scale: Market competitive based on a 36 hour week, depending on qualifications and experience. Successful candidates will receive an attractive base-salary in accordance with the Marie Skłodowska-Curie Actions, for 36 months. The exact (net) salary depends on the EU-defined country correction factor, and on local tax regulations (for additional information see EU MSCA website). Exact salary will be confirmed upon appointment.

Doctoral candidates will receive a living allowance of € 4010/month (correction factor to be applied per country, and local employer's contribution and tax regulations). They will also benefit from a monthly mobility allowance of € 710. In addition a family monthly allowance of €660 (if applicable) is on offer to fellows with a spouse and/or child/children. Successful applicants are eligible for parental leave in compliance with the Italian legislature.

In addition to your local PhD training, you will participate in a comprehensive and attractive educational programme specifically designed for the 13 Research Fellows within the BIO-MICRO consortium. The BIO-MICRO training programme offers a blended learning approach

that combines monthly interactive live online sessions (60–90 minutes) with in-person workshops. The online curriculum covers essential topics in clinical research, including epidemiology, biostatistics, observational and clinical trial design, statistical computing, and scientific writing. In addition, four intensive three-day in-person workshops are dedicated to the development of both academic and transferable skills. In addition, all fellows will carry out 12 months of secondments and will be enabled to participate in relevant international scientific conferences. Together, this structured training programme is designed to optimally prepare you for a successful career as cellular metabolism, micronutrient biology, and immune-metabolic research expert.

If you don't have the nationality of an EU/EEA country or Switzerland, you will need a residence permit to live and work in Italy.